

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/672,280  
Source: 1FW0  
Date Processed by STIC: 12/2/05

# ***ENTERED***



IFWO

## RAW SEQUENCE LISTING

DATE: 12/02/2005

PATENT APPLICATION: US/10/672,280

TIME: 12:07:27

Input Set : A:\A-71386-7.ST25.txt

Output Set: N:\CRF4\12022005\J672280.raw

```

3 <110> APPLICANT: Lazar, Gregory Alan
4   Chirino, Arthur J.
5   Dang, Wei
6   Desjarlais, John Rudolph
7   Doberstein, Stephen Kohl
8   Hayes, Robert J.
9   Karki, Sher Bahadur
10  Vafa, Omid
12 <120> TITLE OF INVENTION: OPTIMIZED FC VARIANTS AND METHODS FOR THEIR GENERATION
14 <130> FILE REFERENCE: A-71386-7
16 <140> CURRENT APPLICATION NUMBER: US 10/672,280
17 <141> CURRENT FILING DATE: 2003-09-26
19 <150> PRIOR APPLICATION NUMBER: US 60/477,839
20 <151> PRIOR FILING DATE: 2003-06-12
22 <150> PRIOR APPLICATION NUMBER: US 60/467,606
23 <151> PRIOR FILING DATE: 2003-05-02
25 <150> PRIOR APPLICATION NUMBER: US 60/414,433
26 <151> PRIOR FILING DATE: 2002-09-27
28 <150> PRIOR APPLICATION NUMBER: US 60/442,301
29 <151> PRIOR FILING DATE: 2003-01-23
31 <160> NUMBER OF SEQ ID NOS: 6
33 <170> SOFTWARE: PatentIn version 3.3
35 <210> SEQ ID NO: 1
36 <211> LENGTH: 451
37 <212> TYPE: PRT
38 <213> ORGANISM: Homo sapiens
40 <400> SEQUENCE: 1
42 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Arg Pro Ser Gln
43 1          5          10          15
46 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Phe Thr Phe Thr Asp Phe
47          20          25          30
50 Tyr Met Asn Trp Val Arg Gln Pro Pro Gly Arg Gly Leu Glu Trp Ile
51          35          40          45
54 Gly Phe Ile Arg Asp Lys Ala Lys Gly Tyr Thr Thr Glu Tyr Asn Pro
55          50          55          60
58 Ser Val Lys Gly Arg Val Thr Met Leu Val Asp Thr Ser Lys Asn Gln
59 65          70          75          80
62 Phe Ser Leu Arg Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr
63          85          90          95
66 Tyr Cys Ala Arg Glu Gly His Thr Ala Ala Pro Phe Asp Tyr Trp Gly
67          100         105         110
70 Gln Gly Ser Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
71          115         120         125

```

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74 Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
75      130                      135                      140
78 Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
79 145                      150                      155                      160
82 Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
83      165                      170                      175
86 Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
87      180                      185                      190
90 Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
91      195                      200                      205
94 Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
95      210                      215                      220
98 Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
99 225                      230                      235                      240
102 Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
103      245                      250                      255
106 Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
107      260                      265                      270
110 Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
111      275                      280                      285
114 His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
115      290                      295                      300
118 Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
119 305                      310                      315                      320
122 Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
123      325                      330                      335
126 Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
127      340                      345                      350
130 Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser
131      355                      360                      365
134 Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
135      370                      375                      380
138 Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
139 385                      390                      395                      400
142 Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
143      405                      410                      415
146 Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
147      420                      425                      430
150 His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
151      435                      440                      445
154 Pro Gly Lys
155      450
158 <210> SEQ ID NO: 2
159 <211> LENGTH: 227
160 <212> TYPE: PRT
161 <213> ORGANISM: Homo sapiens
163 <400> SEQUENCE: 2
165 Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
166 1                      5                      10                      15

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```

169 Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
170          20          25          30
173 Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
174          35          40          45
177 Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
178          50          55          60
181 His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
182 65          70          75          80
185 Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
186          85          90          95
189 Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
190          100         105         110
193 Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
194          115         120         125
197 Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser
198          130         135         140
201 Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
202 145          150          155          160
205 Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
206          165          170          175
209 Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
210          180         185         190
213 Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
214          195         200         205
217 His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
218          210         215         220
221 Pro Gly Lys
222 225
225 <210> SEQ ID NO: 3
226 <211> LENGTH: 213
227 <212> TYPE: PRT
228 <213> ORGANISM: Homo sapiens
230 <400> SEQUENCE: 3
232 Gln Ile Val Leu Ser Gln Ser Pro Ala Ile Leu Ser Ala Ser Pro Gly
233 1          5          10          15
236 Glu Lys Val Thr Met Thr Cys Arg Ala Ser Ser Ser Val Ser Tyr Ile
237          20          25          30
240 His Trp Phe Gln Gln Lys Pro Gly Ser Ser Pro Lys Pro Trp Ile Tyr
241          35          40          45
244 Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Val Arg Phe Ser Gly Ser
245          50          55          60
248 Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Val Glu Ala Glu
249 65          70          75          80
252 Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Thr Ser Asn Pro Pro Thr
253          85          90          95
256 Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala Pro
257          100         105         110
260 Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr
261          115         120         125

```

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```

264 Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys
265      130      135      140
268 Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu
269 145      150      155      160
272 Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser
273      165      170      175
276 Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala
277      180      185      190
280 Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe
281      195      200      205
284 Asn Arg Gly Glu Cys
285      210
288 <210> SEQ ID NO: 4
289 <211> LENGTH: 451
290 <212> TYPE: PRT
291 <213> ORGANISM: Homo sapiens
293 <400> SEQUENCE: 4
295 Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Lys Pro Gly Ala
296 1      5      10      15
299 Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
300      20      25      30
303 Asn Met His Trp Val Lys Gln Thr Pro Gly Arg Gly Leu Glu Trp Ile
304      35      40      45
307 Gly Ala Ile Tyr Pro Gly Asn Gly Asp Thr Ser Tyr Asn Gln Lys Phe
308      50      55      60
311 Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr
312 65      70      75      80
315 Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
316      85      90      95
319 Ala Arg Ser Thr Tyr Tyr Gly Gly Asp Trp Tyr Phe Asn Val Trp Gly
320      100      105      110
323 Ala Gly Thr Thr Val Thr Val Ser Ala Ala Ser Thr Lys Gly Pro Ser
324      115      120      125
327 Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
328      130      135      140
331 Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
332 145      150      155      160
335 Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
336      165      170      175
339 Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
340      180      185      190
343 Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
344      195      200      205
347 Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Ala Glu Pro Lys Ser Cys
348      210      215      220
351 Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
352 225      230      235      240
355 Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
356      245      250      255

```

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Input Set : A:\A-71386-7.ST25.txt

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```

359 Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
360           260           265           270
363 Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
364           275           280           285
367 His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
368           290           295           300
371 Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
372 305           310           315           320
375 Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
376           325           330           335
379 Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
380           340           345           350
383 Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser
384           355           360           365
387 Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
388           370           375           380
391 Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
392 385           390           395           400
395 Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
396           405           410           415
399 Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
400           420           425           430
403 His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
404           435           440           445
407 Pro Gly Lys
408           450

```

411 &lt;210&gt; SEQ ID NO: 5

412 &lt;211&gt; LENGTH: 451

413 &lt;212&gt; TYPE: PRT

414 &lt;213&gt; ORGANISM: Artificial

416 &lt;220&gt; FEATURE:

417 &lt;223&gt; OTHER INFORMATION: Synthetic

420 &lt;220&gt; FEATURE:

421 &lt;221&gt; NAME/KEY: misc\_feature

422 &lt;222&gt; LOCATION: (243)..(243)

423 <223> OTHER INFORMATION: Xaa can be one of the following amino acids: serine,  
aspartic

424 acid, glutamic acid, asparagine, glutamine or threonine

426 &lt;220&gt; FEATURE:

427 &lt;221&gt; NAME/KEY: misc\_feature

428 &lt;222&gt; LOCATION: (244)..(244)

429 <223> OTHER INFORMATION: Xaa can be one of the following amino acids: valine,  
isoleucine

430 or methionine

432 &lt;220&gt; FEATURE:

433 &lt;221&gt; NAME/KEY: misc\_feature

434 &lt;222&gt; LOCATION: (268)..(268)

435 <223> OTHER INFORMATION: Xaa can be one of the following amino acids: valine,  
isoleucine,

436 threonine or tyrosine

438 &lt;220&gt; FEATURE:

439 &lt;221&gt; NAME/KEY: misc\_feature

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/672,280

DATE: 12/02/2005  
TIME: 12:07:28

Input Set : A:\A-71386-7.ST25.txt  
Output Set: N:\CRF4\12022005\J672280.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:5; Xaa Pos. 243,244,268,301,302,334,336

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:5,6

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/672,280

DATE: 12/02/2005

TIME: 12:07:28

Input Set : A:\A-71386-7.ST25.txt

Output Set: N:\CRF4\12022005\J672280.raw

L:523 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:240  
L:527 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:256  
L:535 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:288  
L:543 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:320